



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/757,779	01/15/2004	Richard T. Bernardi	7338-88459	5456
24628	7590	05/19/2005	EXAMINER	
WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			YUN, JURIE	
			ART UNIT	PAPER NUMBER
			2882	

DATE MAILED: 05/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/757,779	<b>Applicant(s)</b> BERNARDI ET AL.	
	<b>Examiner</b> Jurie Yun	<b>Art Unit</b> 2882	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 June 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,8,9 and 11-22 is/are rejected.
- 7) ☒ Claim(s) 4,7 and 10 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

## DETAILED ACTION

### *Claim Objections*

1. Claim 1 is objected to because of the following informalities: there is lack of antecedent basis for "the **X-ray** platform" in line 9. Appropriate correction is required.
2. Claim 15 is objected to because of the following informalities: it is assumed that in line 5, "collimating" should be "collimator" and has been treated as such. Appropriate correction is required.
3. Claim 18 is objected to because of the following informalities: there is lack of antecedent basis for "the postcollimator". It is assumed that claim 18 should depend on claim 9, and has been treated as such. Appropriate correction is required.
4. Claim 22 is objected to because of the following informalities: there is lack of antecedent basis for "the postcollimator". Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-3, 5, 6, 8, 11-17, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Annis (USPN 5,493,596) and further in view of Verbinski et al. (USPN 6,507,025 B1).
7. With respect to claims 1 and 19, Annis discloses an X-ray apparatus for inspecting a cargo container (column 4, lines 12-16), such apparatus comprising: an X-

Art Unit: 2882

ray source (34) and X-ray detector (50) disposed on opposing sides of a scanning zone (32), said X-ray source being disposed in a spaced-apart relationship with respect to the scanning zone; a precollimator (36) disposed between the X-ray source and scanning zone, said precollimator being located proximate the scanning zone; and an intermediate collimator (40) disposed midway between the X-ray source and the precollimator, said intermediate collimator having a spaced-apart relationship with respect to the precollimator and to the X-ray source.

Annis discloses all of the elements except that the X-ray source and X-ray detector are disposed on a moveable platform on opposing sides of the scanning zone. Verbinski et al. disclose an X-ray source (Fig. 3A, 18') and an X-ray detector (14') disposed on a moveable platform on opposing sides of the scanning zone (10). Verbinski et al. disclose either the truck (16') or object (10) moves during the inspection (column 13, lines 56+). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the truck carrying the source boom and source and detector in the Annis inspection system, to provide for both modes of inspection. Annis only discloses the object being moved, so this modification would make the apparatus more flexible in handling inspections, as taught by Verbinski et al.

8. With respect to claims 2 and 20, Annis does not disclose the intermediate collimator further comprises a pair of wings for intercepting backscatter operatively extending from opposing sides of a collimating slot of the intermediate collimator towards the X-ray source. However, Annis discloses shielding (33a) on the source collimator (35), and it would have been obvious to one of ordinary skill in the art at the

time the invention was made to provide for more shielding or wings on all of the other collimators, including the intermediate collimator (40), to intercept backscatter and result in a better inspection image.

9. With respect to claim 3, Annis does not disclose the pair of wings further comprises a mounting position that is set back from a center line of a collimating entrance of the intermediate collimator by a substantially equal distance, but this would be obvious to do in light of symmetry, resulting in a better image.

10. With respect to claim 5, Annis does not disclose the intermediate collimator further comprises an overall width that is less than 6% of a distance to the X-ray source, but this would be obvious depending on the degree of collimation or resolution desired.

11. With respect to claims 6 and 21, Annis does not disclose the precollimator further comprises a pair of wings for intercepting backscatter operatively extending from opposing sides of a collimating slot of the precollimator towards the X-ray source.

However, Annis discloses shielding (33a) on the source collimator (35), and it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide for more shielding or wings on all of the other collimators, including the precollimator (36), to intercept backscatter and result in a better inspection image.

12. With respect to claim 8, Annis does not disclose the precollimator further comprises an overall width that is less than 2% of a distance to the X-ray source, but this would be obvious depending on the degree of collimation or resolution desired.

13. With respect to claim 11, Annis discloses a source collimator (35) disposed adjacent the X-ray source (34).

14. With respect to claims 12 and 13, Annis does not disclose the source collimator further comprises a collimating slot with an entrance having a width that is approximately one percent of a distance from a point of origin of X-rays from the X-ray source to the entrance of the source collimator, and with an exit having a width that is less than one percent of a distance from the point of origin of the X-ray source to the exit of the source collimator, but this would be obvious depending on the degree of collimation or resolution desired.

15. With respect to claims 14 and 15, Annis does not disclose the intermediate collimator further comprises a collimating slot with an entrance having a width that is less than one-half percent of a distance from the X-ray source to the entrance of the intermediate collimator, and with an exit having a width that is about one-third percent of a distance from the X-ray source to the exit of the source collimator, but this would be obvious depending on the degree of collimation or resolution desired.

16. With respect to claims 16 and 17, Annis does not disclose the precollimator further comprises a collimating slot with an entrance having a width that is about one-tenth percent of a distance from the X-ray source to the entrance of the precollimator, and with an exit having a width that is about one-half millimeter larger than the entrance, but this would be obvious depending on the degree of collimation or resolution desired.

17. Claims 9, 18, and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Annis (USPN 5,493,596) in view of Verbinski et al. (USPN 6,507,025 B1) as

Art Unit: 2882

applied to claims 1 and 19 above, and further in view of Galish et al. (USPN 6,711,235 B2).

18. With respect to claims 9 and 22, Annis does not disclose the detector further comprises a postcollimator that supports a set of detector elements. Galish et al. disclose a detector (19) with a postcollimator (21) that supports a set of detector elements. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a postcollimator on the Annis detector, to enhance imaging. It would have also been obvious to one of ordinary skill in the art to have a pair of wings for the postcollimator, for intercepting backscatter operatively extending from opposing sides of a front face of the set of detectors towards the X-ray source, to further enhance imaging.

19. With respect to claim 18, Annis and Galish et al. do not disclose the postcollimator further comprises a collimating slot with an entrance having a width that is about 0.05 percent of a distance from the X-ray source to the entrance of the postcollimator, but this would be obvious depending on the degree of collimation or resolution desired.

***Allowable Subject Matter***

20. Claims 4, 7, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Art Unit: 2882

21. The following is a statement of reasons for the indication of allowable subject matter: Prior art fails to disclose an X-ray apparatus for inspecting a cargo container, wherein the set back of the pair of wings from the centerline of the collimating entrance of the intermediate collimator further comprises a distance between the wings that is substantially equal to one percent of the distance from the X-ray source, as claimed.

Prior art fails to disclose an X-ray apparatus for inspecting a cargo container, wherein the set back of the pair of wings from the centerline of the collimating entrance of the postcollimator further comprises a distance between the wings that is substantially equal to 0.2 percent of the distance from the X-ray source, as claimed.

Prior art fails to disclose an X-ray apparatus for inspecting a cargo container, wherein the set back of the pair of wings from the centerline of the collimating entrance of the precollimator further comprises a distance between the wings that is substantially equal to one-half percent of the distance from the X-ray source, as claimed.

### ***Conclusion***

22. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jurie Yun whose telephone number is 571 272-2497.

The examiner can normally be reached on Monday-Friday 8:30-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on 571 272-2490. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

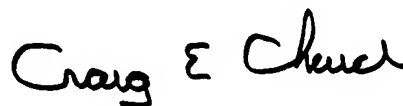


Art Unit: 2882

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jurie Yun  
May 13, 2005



**Craig E. Church**  
**Primary Examiner**